

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of US 40 at Belvidere Rd./ MD 7 (Principio Furnace Rd.) Cecil County, Maryland. US 40 is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA six (6) phase, full-traffic-actuated mode. There will be an exclusive/permissive left turn phase for both the east and westbound movements of US 40. The US 40 through movements will operate concurrently. The Belvidere Rd./ MD 7 through movements will operate concurrently.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and video detection equipment housed in a base mounted cabinet are to be installed at this location.

EQUIPMENT LIST

A. S.H.A. furnished equipment material.

None.

B1. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
1	EA	818	27 ft. steel mast arm pole with a 70 ft. mast arm.
1	EA	818	27 ft. steel twin mast arm pole with 50 ft. and 70 ft. mast arms.
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, and video camera detection equipment. (Note: Controller and cabinet shall be purchased from Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-76501.
4	EA	---	Video detector camera to include detector cable. 1 - 150 ft. of cable 1 - 400 ft. of cable 2 - 500 ft. of cable
6	EA	814	12 in., one-way, three section (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, five section (R,Y,YA,G,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in./8 in., one-way, five section (12 in. YA, GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in./8 in., one-way, five section (12 in. YA, GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with pole mounting hardware and tunnel visors.
1	EA	814	12 in., one-way, three section (R,Y,G) adjustable black faced 3M optically programmable traffic signal head with mast arm mounting hardware and cut-away visors.
1	EA	813	30 in. x 30 in. R-5-1 sign for ground mounting.
2	EA	813	30 in. x 36 in. R 3-5 (R) sign with mast arm mounting hardware.
2	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
2	EA	813	24 in. x Var. D-3(2) sign for ground mounting.
4	EA	813	32 in. x Var. in. D-3(1) sign with mast arm mounting hardware.
2	EA	813	72 in. x 24 in. M 95-1 sign with mast arm mounting hardware.
4	EA	813	48 in. x 48 in. W 3-3 "NEW" sign for ground mounting.
2	EA	---	Non-invasive micro-loop probe (set of 3) with 500 ft. lead-in cable.
2	EA	---	Non-invasive micro-loop probe (set of 3) with 750 ft. lead-in cable.
2	EA	806	15 ft. luminaire arm.
2	EA	806	250 W H.P.S. lamp and luminaire with photocell.

B2. Equipment to be furnished and/or installed by the Contractor.

All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
3	CY	205	Test pit excavation.
11	EA	811	Handhole.
425	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
120	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
1775	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
150	LF	810	1-conductor electrical cable (No. 4 A.W.G.) (3 pieces).
330	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
750	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
25	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
115	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
120	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
230	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
12	CY	801	Concrete foundation for traffic signal equipment.
3	EA	804	Ground rod 3/4 in. diameter x 10 ft. length.
1	EA	807	Electrical utility service equipment (120/240 V, one phase, three wire system) for a type B-10 underground electrical service.
155	LF	556	24 in. wide HAPTPM - white for stop line.
180	LF	812	4 in. x 6 in. wood sign support.
115	LF	605	W-beam traffic barrier.
20	EA	605	W-beam traffic barrier posts.
1	EA	605	Type C end treatment for w-beam traffic barrier.
1	EA	605	Type I end treatment for w-beam traffic barrier.
4	EA	---	Remove existing sign.
13	LF	---	Remove existing pavement markings by grinding.
Lump Sum	LS	---	As-built for S.H.A. (on CADD).

C. SHA forces shall remove the controller and all auxiliary equipment from the controller cabinet. The cabinet and all other materials to be removed by the contractor shall become the property of the contractor.

NONE.

CONTACT LIST

The contact persons for District #2 are as follows:

Mr. Richard K. Lindsay
Assistant District Engineer - Traffic
410-778-3061

Mr. Barry Clothier
Assistant District Engineer - Utility
410-778-3061

Mr. Terry O. Wright
Assistant District Engineer - Maintenance
410-778-3061

Mr. Richard L. Doff
Chief, Traffic Operations Division
410-787-7630

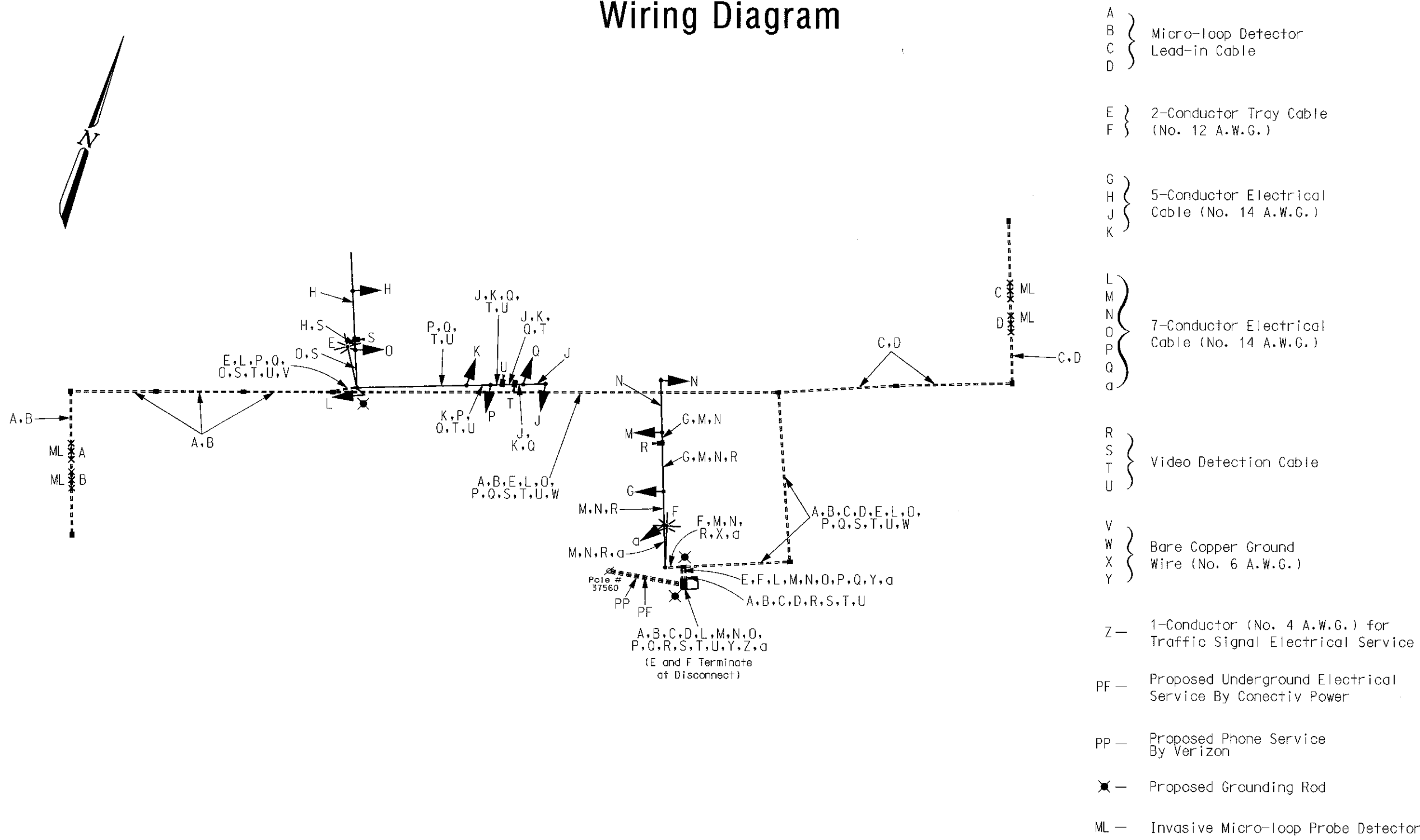
The Power Company Representative is:

Connectiv
Juan Owano
410-287-7176
2 Center Dr.
N.E., MD 21901

Phase Chart

	1	2	3	4	5	6	7	8	9	10	11	
Phase 1 & 5												
1 & 5 Change to Phase 1 & 6 or Phase 2 & 5 or Phase 2 & 6												
Phase 1 & 6												
1 Change												
Phase 2 & 5												
5 Change												
Phase 2 & 6												
2 & 6 Change												
Phase 4 & 8												
4 & 8 Change												
Flashing Operation												

Wiring Diagram



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(Traffic Signal Plan)
US 40 at
MD 7(Principio Furnace Rd.) / Belvidere Rd.

DRAWN BY: J. Storck	F.A.P. NO. N/A	TS NO. 4288	SHEET NO. 2 OF 2
CHECKED BY:	S.H.A. NO. BW996M82		
SCALE: N/A	COUNTY: Cecil	T.I.M.S. NO. FB23-GI	
DATE: November 18, 2003	LOG MILE: 07004004.38		